Increasing Community College Participation in the MATE ROV (Remotely Operated Vehicle) Competition

ATE Special Project: #2031249 (start date October 1, 2020)
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www.materovcompetition.org

Project Summary: The overarching goal of this ATE Special Project is to increase the number of community colleges that participate in the MATE ROV Competition, a global underwater robotics design and engineering URE (undergraduate research experience) that was created in 2001 as a way to educate and prepare students for the ocean technical workforce. Community college participation is currently significantly lower than that of other higher education institutions. This project will tackle this issue by applying lessons learned over many years of administering competitions and supporting institutional participation. The project's strategies have been informed by the results of MATE's NSF Innovative Technology Experiences for Students and Teachers (ITEST) and I-Corps for Learning efforts and leverage MATE's current ATE-funded Evaluate-Compete project, which employs an innovative student outcomes evaluation/learning methodology designed to measure students' learning gains and metacognitive skill development.

Under this project, community college faculty and students implementing the MATE ROV Competition at their institutions will be provided with:

A starter ROV "kit of parts" specifically designed with a community college audience in mind

Instructional materials, including video tutorials, that complement the kit and the design and building process

Mentors who are experienced community college faculty ROV team advisors and members of the MATE Technical Team

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Funding to support travel to competition events

Evaluate Compete

Evaluate-Compete, which will allow faculty to demonstrate the student learning gains and make the case for institutionalizing the competition as a unique and transformative learning experience

Access to the MATE Competition Network of regional coordinators, working professionals, and global community of learners

Year 1 activities are focused on developing the starter kit and instructional materials. Year 1 will also focus on recruiting community college faculty to participate in professional development in Summer 2021 so that they are prepared to dive into the project with their students at the start of the 2021-2022 MATE ROV Competition season.

Interested in learning more? Please contact PI Jill Zande at jzande@marinetech.org